DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-023237
Date Inspected: 02-May-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1730
Location: Job Site

CWI Name: Steve Jensen

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS Tower

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Tower North Shaft Splice #2 @Elevation 83meters:

At Northeast (B-C) corner, upper splice plate; this QA Inspector randomly observed ABF welding personnel Salvador Sandoval (#2202) continuing to perform production welding on the bottom half of the splice plate using the self shielded Flux Cored Arc Welding (FCAW) process. This QA Inspector observed ABF personnel using Miller Proheat 35 Induction Heating System with the heater blanket placed on top of the plate being welded preheating the plate first thing in the morning and a propylene gas torch on areas prior to welding. This QA Inspector observed QC Inspector Steve Jensen using a Fluke infra red temperature gauge to verify the preheat temperature of more than 300°F. This QA Inspector performed a verification of the welding parameters and observed 260 amperes and 21.2volts with a travel speed of 90 mm per minute with equivalent heat input of 3.67 Kj per mm. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. The welder continued cover pass fillet welding on both sides of the plate and moved to the bottom section of the plate and performed 4F overhead fillet welding. The welder was noted using Shielded Metal Arc Welding (SMAW) with 5/32” diameter E7018H4R electrode implementing ABF-WPS-D15-F1200A. Welding of this overhead fillet was also completed during the shift. After the overhead fillet welding was completed, ABF personnel were noted covering the weld with heater blanket and preheated and held the temperature of more than 300°F for three hours as required. ABF personnel were using Miller Proheat 35 Induction Heating System to hold

the preheat that was programmed to shut off after three hours.

At Tower North Shaft Splice #2 @Elevation 83meters:

At North (C-D) corner, lower splice plate; This QA Inspector randomly observed ABF welding personnel Morgan Winters continuing to perform production welding on the bottom half of the lower splice plate using the self shielded Flux Cored Arc Welding (FCAW) process. This QA Inspector observed ABF personnel using Miller Proheat 35 Induction Heating System with the heater blanket placed on top of the plate being welded preheating the plate first thing in the morning and a propylene gas torch on areas prior to welding. This QA Inspector observed QC Inspector Steve Jensen using a Fluke infra red temperature gauge to verify the preheat temperature of more than 300°F. This QA Inspector performed a verification of the welding parameters and observed 250 amperes and 20.0 volts with a travel speed of 90 mm per minute with equivalent heat input of 3.33 Kj per mm. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. Welding of the vertical fillet weld was completed during the shift and the welder has moved to upper splice and performed FCAW fillet welding on the top half of the upper splice. At the end of the shift, fillet welding was still continuing and should remain tomorrow. Before the end of the shift, at around 1500hours, ABF personnel were noted covering the weld with heater blanket in preparation for the three hours holding of preheat temperature of more than 300°F as required. ABF personnel were using Miller Proheat 35 Induction Heating System to hold the preheat that was programmed to shut off after three hours.

At Tower East Shaft Splice #2 @Elevation 83meters:

At Southeast (C-D) corner, lower splice plate; this QA Inspector randomly observed ABF welding personnel Richard Garcia (ID #5892) perform production welding on the bottom half of the splice plate using the self shielded Flux Cored Arc Welding (FCAW) process. This QA Inspector observed ABF personnel using Miller Proheat 35 Induction Heating System with the heater blanket placed on top of the plate being welded preheating the plate first thing in the morning and a propylene gas torch on areas prior to welding. This QA performed random fit up verification and noted a maximum gap of 4mm on limited area while less than 2mm on most of the remaining areas. This QA Inspector observed QC Inspector Steve Jensen using a Fluke infra red temperature gauge to verify the preheat temperature of more than 300°F. This QA Inspector performed a verification of the welding parameters and observed 255 amperes and 22.0volts with a travel speed of 100 mm per minute with equivalent heat input of 3.37 Kj per mm. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. The welder continued fill pass fillet welding on both sides of the plate until 1700hours. Before the end of the shift, the welder has stopped fillet welding and ABF personnel were noted covering the weld with heater blanket in preparation for the three hours holding of preheat temperature of more than 300°F as required. ABF personnel were using Miller Proheat 35 Induction Heating System to hold the preheat that was programmed to shut off after three hours.

WELDING INSPECTION REPORT

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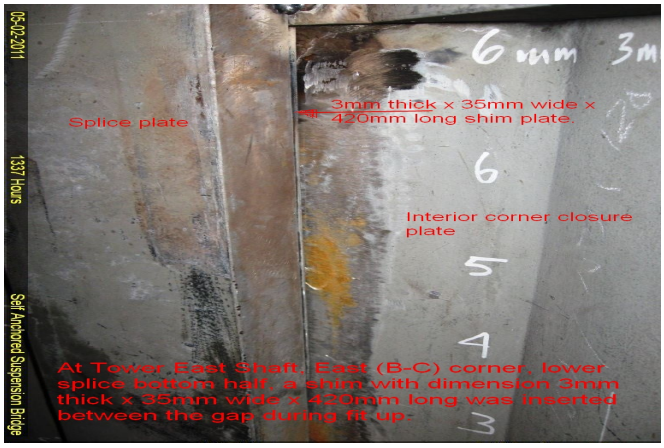

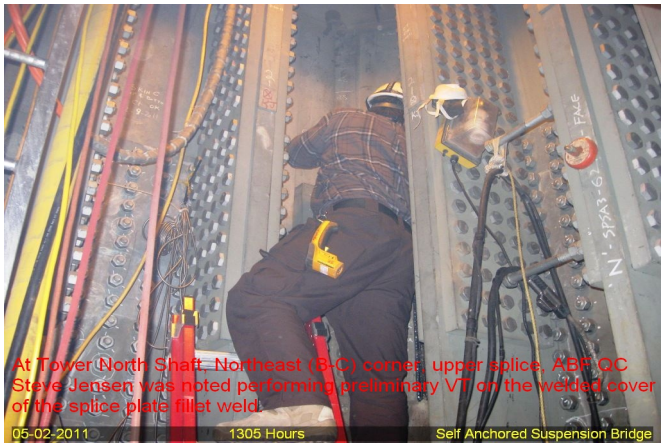

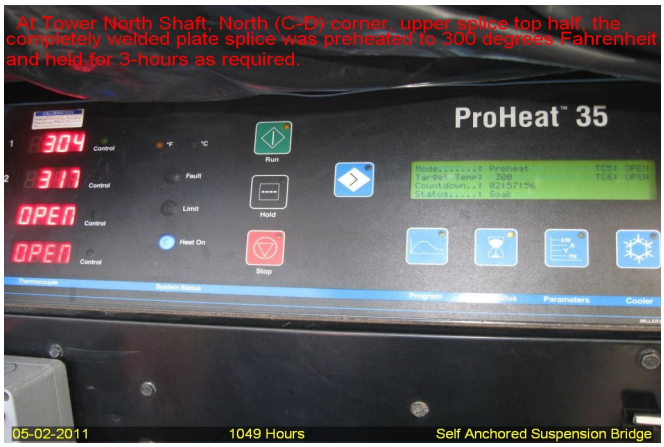

Summary of Conversations:

No significant conversation ocured today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer